

REMARKS

Claim 7 is cancelled. Claims 1, 2, 11, and 13 are amended. Claims 1-4, 6, and 8-14 remain in the Application. Reconsideration of the pending claims is respectfully requested in view of the above amendment and the following remarks.

I. In the Specification

The Specification is objected to as failing to provide proper antecedent basis for the subject matter of Claim 13. Applicants amend Claim 13 to remove “the first organic material and.” Claim 13, as amended, is supported by Applicants’ Specification at page 8, lines 6-12, page 9, lines 6-11, page 13, line 21 to page 14, line 5, and feature 300’ of FIG. 2. In particular, the Specification at page 14, lines 1-6 describes the deposition of a first material (recited in base Claim 11) and a second material (Claim 13) in an alternating order to form AB, ABAB, ABABAB...type of multilayered organic thin films. Thus, amended Claim 13 is fully supported by the disclosure in the Specification. Accordingly, approval of the amendment is respectfully requested.

II. Claims Rejected Under 35 U.S.C. § 103(a)

A. Claims 1, 3, 4, and 6-12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Jurgensen I (WO 01/61071) corresponding to (U.S. 2003/0054099) in view of Jurgensen II (WO/02/27064) corresponding to (U.S. 2003/0192471) and/or Gartner (U.S. Patent No. 4,947,790). Applicants respectfully traverse the rejection.

To establish a *prima facie* case of obviousness, the relied upon references must teach or suggest every limitation of the claim such that the invention as a whole would have been obvious at the time the invention was made to one skilled in the art. Amended Claim 1 incorporates all of the limitations of cancelled Claim 7 and additional patentable features. Among other elements, amended Claim 1 recites “a source part, which comprises...a diluted gas supply source, from which diluted gas is supplied to combine with the transfer gas before entering the process chamber and after the transfer gas leaving the source chamber in order to control pressure of the process chamber.” Applicants submit that none of the cited references teach or suggest these limitations.

In the Office Action, the Examiner rejects cancelled Claim 7 over Jurgensen I in view of Jurgensen II and/or Gartner but does not provide any specific reason for the rejection. Applicants have carefully reviewed the specification of the cited references but have not been able to locate any reference to the diluted gas supply source recited in cancelled Claim 7 and incorporated by Claim 1. Jurgensen I at most mentions that the dilution effected by carrier gas may reduce the pressure in the tanks 1, 3, or within the gas inlet unit 15 (paragraph 73). As the carrier gas is characterized as the transfer gas, Jurgensen I does not teach or suggest a separate diluted gas, which is combined with the transfer gas before entering the processing chamber and after the transfer gas leaving the source chamber. None of the cited references teach or suggest the diluted gas combined with the transfer gas as claimed.

Moreover, regarding Jurgensen I and II, the position and function of a conic block or a plate are different from each other. That is, the conic block or plate of the claimed apparatus is located in a source chamber, whereas the conic gas distributor plate of Jurgensen I and II is located in a process chamber. In addition, a transfer gas flows along an outer inclined plane of the conic block or plate in the claimed apparatus, whereas reaction gases and transfer gas flow together through the conic gas distributor plate in Jurgensen I and II. Thus, the outlet opening in Jurgensen I and II is different from the transfer gas inlet in the claimed apparatus.

Additionally, regarding Gartner, the conic block or plate in the claimed apparatus is used for a uniform flow of the transfer gas, however, the gas inlet plate having a conic shape in Gartner is used for providing a sufficient vapor pressure in LPCVD and an inert gas flows through the gas inlet plate having a conic shape.

Finally, the diluted gas in the claimed apparatus is used for downstream uniform organic deposition with suitable pressure, by controlling the ratio of a mixture of the reaction and transfer gases and the diluted gas. However, in Jurgensen I and II and Gartner, the diluted gas is not taught or suggested, and accordingly, the pressure cannot be adjusted by using the diluted gas.

Analogous discussions apply to independent Claim 11, which is amended to recite “combining diluted gas with the transfer gas before entering the process chamber and after the transfer gas leaving the source chamber in order to control pressure of the process chamber.” Claims 3, 4, 6, 8-10, and 12 respectively depend from Claims 1 and 11 and incorporate the

limitations thereof. Thus, for at least the reasons mentioned above in regard to Claim 1, none of the cited references teach or suggest each element of these claims.

Accordingly, reconsideration and withdrawal of the obviousness rejection of Claims 1, 3, 4, and 6, 8-12 are requested.

B. Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Jurgensen I in view of Jurgensen II and/or Gartner for the reasons applied to Claim 1, and taken in view of Dauelsberg (WO 01/57289) corresponding to (U.S. 2003/0056720).

Claim 2 depends from Claim 1 and incorporates the limitations thereof. Thus, for at least the reasons mentioned above in regard to Claim 1, Jurgensen I in view of Jurgensen II and/or Gartner does not teach or suggest each element of Claim 2.

Dauelsberg also does not disclose the diluted gas combined with the transfer gas to control the pressure of the process chamber. Moreover, amended Claim 2 recites a shower curtain “installed between the shower head and the substrate holder to surround the substrate holder.” Dauelsberg is relied on for disclosing the claimed shower curtain. However, the “gas curtain around the coating gas” does not teach or suggest the claimed shower curtain which surrounds the substrate holder. Thus, Dauelsberg and the other cited references does not, separately or in combination, teach or suggest each of the elements of Claim 2. Accordingly, reconsideration and withdrawal of the rejection of Claim 2 are respectfully requested.

C. Claims 11 and 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Jurgensen I in view of Jurgensen II and/or Gartner for the reasons applied to Claim 1, and further in view of Ozias (U.S. Patent No. 4,846,102).

The Examiner relies on Ozias for teaching the purging operation. However, Ozias does not cure the deficiency of the other cited references for failing to disclose the diluted gas combined with the transfer gas to control pressure of the process chamber, as recited in amended Claim 11. There is nothing in Ozias that mentions diluted gas. Thus, none of the cited references teach or suggest each of the elements of Claim 11 and its dependent Claim 12.

D. Claims 11 and 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Jurgensen I in view of Jurgensen II and/or Gartner for the reasons applied to Claim 1, and further in view of Forrest I (U.S. 5,554,220), Forrest II (U.S. 6,337,102), and Posa (U.S. Patent No. 4,747,367).

The Examiner relies on Forrest I and Forrest II for disclosing the deposition of plural layers, and Posa for disclosing flushing a vapor coating reactor. However, none of these references, separately or in combination, teaches or suggests the diluted gas combined with the transfer gas to control the pressure of the process chamber as recited in amended Claim 11. Accordingly, reconsideration and withdrawal of the rejection of Claim 11 and its dependent Claim 12 are respectfully requested.

E.. Claims 13 and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Jurgensen I in view of Jurgensen II and/or Gartner, and in view of Forrest I, Forrest II, and Posa, and further in view of Dauelsberg and Konuma (U.S. 2002/0030443).

The Examiner relies on Dauelsberg and Konuma for disclosing a vaporizer using two materials to form a multi-layered organic device. However, none of these references, separately or in combination, teaches or suggests the diluted gas combined with the transfer gas to control the pressure of the process chamber as recited in amended Claim 11 and incorporated by its dependent Claims 13 and 14. Accordingly, reconsideration and withdrawal of the rejection of Claims 13 and 14 are respectfully requested.

CONCLUSION

In view of the foregoing, it is believed that all claims now are now in condition for allowance and such action is earnestly solicited at the earliest possible date. If there are any additional fees due in connection with the filing of this response, please charge those fees to our Deposit Account No. 02-2666.

Respectfully submitted,

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Dated: April 25, 2006

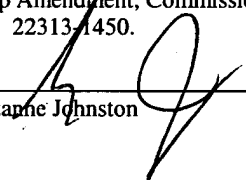


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4/25/06

Date